

## ABSTRACT

1. Method for determining the distance between two transmitting and receiving stations and transmitting and receiving stations for carrying out the method.

5 2.1. In automotive engineering transmitting and receiving stations are usually used in keyless locking systems as electronic key modules or evaluation units for identifying the key module. Deactivation of the locking system is prevented if the key module allocated by means of a clear  
10 identification number from the evaluation unit is not in the immediate vicinity of the evaluation unit. Communication between the evaluation unit and the key module is carried out by transmitting data telegrams between transmitting and receiving stations. The aim of the  
15 invention is to determine the distance between the transmitting and receiving stations in a simple manner.

2.2. According to the novel method, at least three data telegrams are alternately transmitted between the transmitting and receiving stations; when the data telegram  
20 is received, each data bit of said data telegram is associated with a counter value corresponding to the counter state of a free-running counter at the moment when the respective data bit is received; a counter sum is associated with each data telegram as a sum or average  
25 value of the counter values determined during reception of the data telegram concerned and a sum figure is formed by weighted summation of the counter sums as an indicator of the distance between the transmitting and receiving stations.